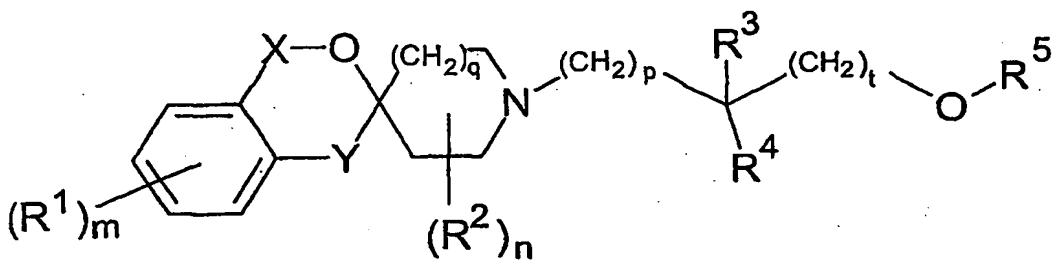


CLAIMS

1. A compound of formula



wherein

m is 0, 1, 2, 3 or 4;

10 each R¹ independently represents halogen, cyano, hydroxyl, C₁-C₆ alkyl,

C₁-C₆ haloalkyl, C₁-C₆ alkoxy, C₁-C₆ alkylsulphonyl or sulphonamido (-SO₂NH₂);

X represents a bond or -CH₂- and Y represents a bond or -CH₂-, provided that X and

Y do not both simultaneously represent a bond or -CH₂-;

n is 0, 1 or 2;

15 each R² independently represents halogen, C₁-C₆ alkyl or C₁-C₆ haloalkyl;

q is 0 or 1;

p is 0, 1 or 2;

20 R³ represents a group selected from halogen, NR⁶R⁷, carboxyl or C₁-C₆ alkyl wherein said C₁-C₆ alkyl group is optionally substituted by one or more halogen, amino, hydroxyl, C₁-

C₆ alkoxy, N-(C₁-C₆ alkyl)amino, N,N-di-(C₁-C₆ alkyl)amino, carboxy or carbamoyl;

R⁴ represents hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl or halogen;

t is 0, 1 or 2, provided that p and t are not both 0;

25 R⁵ represents a saturated or unsaturated 5- to 10-membered ring system which ring system may comprise at least one ring heteroatom selected from nitrogen, oxygen and sulphur, the ring system being optionally substituted by one or more substituents independently selected from halogen, cyano, oxo, nitro, hydroxyl, carboxyl, -C(O)H, -NR⁸R⁹,

-C(O)NR¹⁰R¹¹, -NHC(O)R¹², -NHSO₂R¹³, -SO₂NR¹⁴R¹⁵, -NHC(O)NR¹⁶R¹⁷, a group selected from C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, C₁-C₆ alkylsulphonyl, C₁-C₆ haloalkyl, C₁-C₆ alkylcarbonyl, phenylcarbonyl, C₃-C₆ cycloalkyl, phenyl and a saturated or unsaturated 5- to 6-membered heterocyclic ring comprising at least one ring heteroatom selected from nitrogen, oxygen and sulphur, each group being optionally substituted by one or more substituents independently selected from halogen, cyano, hydroxyl, carboxyl, C₁-C₆ alkyl, C₃-C₆ cycloalkyl, C₁-C₆ alkoxy and C₁-C₆ alkoxycarbonyl;

10 R⁶ and R⁷ each independently represent hydrogen or a group selected from C₁-C₆ alkyl and C₁-C₆ alkylcarbonyl, each of which may be optionally substituted by one or more substituents selected from halogen, amino, hydroxyl, C₁-C₆ alkoxy, N-(C₁-C₆ alkyl)amino, N,N-di-(C₁-C₆ alkyl)amino, carboxy, carbamoyl or C₁-C₆ alkoxycarbonyl, or R⁶ and R⁷ together with the nitrogen atom to which they are attached form a 4- to 7-membered saturated heterocyclic ring which may be optionally substituted by one or more substituent selected from halogen, amino, hydroxyl, C₁-C₆ alkoxy, N-(C₁-C₆ alkyl)amino, N,N-di-(C₁-C₆ alkyl)amino, carboxy, carbamoyl or C₁-C₆ alkoxycarbonyl;

15 R⁸, R⁹, R¹⁰, R¹¹ each independently represent hydrogen or a group selected from C₁-C₆ alkyl or C₃-C₆ cycloalkyl, each group being optionally substituted by one or more substituents independently selected from halogen, amino, hydroxyl, C₁-C₆ alkoxy, N-(C₁-C₆ alkyl)amino, N,N-di-(C₁-C₆ alkyl)amino, carboxy or carbamoyl; or R¹⁰ and R¹¹, together with the nitrogen atom to which they are attached form a 4- to 7-membered saturated heterocyclic ring which may be optionally substituted with at least one substituent selected from halogen, amino, hydroxyl, C₁-C₆ alkoxy, N-(C₁-C₆ alkyl)amino, N,N-di-(C₁-C₆ alkyl)amino, carboxy or carbamoyl;

20 R¹² represents hydrogen or a group selected from C₁-C₆ alkyl or C₃-C₆ cycloalkyl, each group being optionally substituted by one or more substituents independently selected from halogen, amino, hydroxyl, C₁-C₆ alkoxy, N-(C₁-C₆ alkyl)amino, N,N-di-(C₁-C₆ alkyl)amino, carboxy or carbamoyl;

5 R^{13} represents a group selected from C_1 - C_6 alkyl or C_3 - C_6 cycloalkyl, each group being optionally substituted by one or more substituents independently selected from halogen, amino, hydroxyl, C_1 - C_6 alkoxy, N -(C_1 - C_6 alkyl)amino, N,N -di-(C_1 - C_6 alkyl)amino, carboxy or carbamoyl;

10 R^{14} , R^{15} , R^{16} and R^{17} each independently represent hydrogen or a group selected from C_1 - C_6 alkyl or C_3 - C_6 cycloalkyl, each group being optionally substituted by one or more substituents independently selected from halogen, amino, hydroxyl, C_1 - C_6 alkoxy, N -(C_1 - C_6 alkyl)amino, N,N -di-(C_1 - C_6 alkyl)amino, carboxy or carbamoyl; or R^{14} and R^{15} , or R^{16} and R^{17} , together with the nitrogen atom to which they are attached each independently form a 4- to 7-membered saturated heterocyclic ring which may be optionally substituted with at least one substituent selected from halogen, amino, hydroxyl, C_1 - C_6 alkoxy, N -(C_1 - C_6 alkyl)amino, N,N -di-(C_1 - C_6 alkyl)amino, carboxy or carbamoyl;

15

or a pharmaceutically acceptable salt or solvate thereof.

2. A compound according to claim 1 wherein X represents a bond and Y represents $-CH_2-$.
- 20 3. A compound according to claim 1 or claim 2 wherein q is 1.
4. A compound according to any one of claims 1 to 3 wherein m is 0 or 1 and R^1 represents halogen.
- 25 5. A compound according to any one of claims 1 to 4 wherein n is 0.
6. A compound according to any one of claims 1 to 5 wherein R^3 represents halogen, - NR^6R^7 or C_1 - C_6 alkyl optionally substituted by one or two substituents selected from halogen, amino or hydroxyl
- 30 7. A compound according to any one of claims 1 to 6 wherein R^4 represents hydrogen.

8. A compound according to any one of claims 1 to 7 wherein R⁵ represents a saturated or unsaturated 5- to 10-membered ring system which ring system may comprise one, two, three or four ring heteroatoms independently selected from nitrogen, oxygen and sulphur and which may be optionally substituted one two or three substituents independently selected from halogen, cyano, oxo, nitro, hydroxyl, carboxyl, -C(O)H, -NR⁸R⁹, -C(O)NR¹⁰R¹¹, -NHC(O)R¹², -NHSO₂R¹³, -SO₂NR¹⁴R¹⁵, -NHC(O)NR¹⁶R¹⁷, a group selected from C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, C₁-C₆ alkylsulphonyl, C₁-C₆ haloalkyl, C₁-C₆ alkylcarbonyl, phenylcarbonyl, C₃-C₆ cycloalkyl, phenyl and a saturated or unsaturated 5- to 6-membered heterocyclic ring comprising at least one ring heteroatom selected from nitrogen, oxygen and sulphur, each group being optionally substituted by one or more substituents independently selected from halogen, cyano, hydroxyl, carboxyl, C₁-C₆ alkyl, C₁-C₆ cycloalkyl, C₁-C₆ alkoxy and C₁-C₆ alkoxy carbonyl.

15 9. A claim according to any one of claims 1 to 8 wherein R⁵ represents phenyl, wherein said phenyl is optionally substituted with one or two substituents independently selected from -NHC(O)R¹², -NHC(O)NR¹⁶R¹⁷, hydroxyl or C₁-C₆ alkoxy, or wherein said phenyl is optionally substituted with one, two or three substituents independently selected from halogen, hydroxyl, or carboxyl.

20 10. A compound according to claim 1 selected from:
N-(2-{{(2S)-2-amino-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl}oxy}-4-methoxyphenyl)acetamide;
N-(2-{{(2S)-2-amino-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl}oxy}-4-hydroxyphenyl)acetamide bis(trifluoroacetate) (salt);
25 N-(2-{{(2S)-2-amino-3-(5-fluoro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl}oxy}-4-methoxyphenyl)acetamide;
N-(2-{{(2S)-2-amino-3-(5-fluoro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl}oxy}-4-hydroxyphenyl)acetamide bis(trifluoroacetate) (salt);
30 N-(2-{{(2S)-2-Amino-3-(1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl}oxy}-4-methoxyphenyl)acetamide;

N-(2-{{(2*S*)-2-Amino-3-(1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl]oxy}-4-hydroxyphenyl)acetamide bis(trifluoroacetate) (salt);

N-(2-{{(2*S*)-2-(Acetylamino)-3-(5-fluoro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl]oxy}-4-methoxyphenyl)acetamide;

5 *N*-{2-[3-Amino-2-(5-chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]-4-methoxyphenyl}acetamide bis(trifluoroacetate);

N-{2-[3-Amino-2-(5-fluoro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]-4-methoxyphenyl}acetamide bis(trifluoroacetate);

10 *N*-{2-[3-Amino-2-(1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]-4-methoxyphenyl}acetamide bis(trifluoroacetate);

N-{2-[3-Amino-2-(5-chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]phenyl}urea bis(trifluoroacetate);

N-{2-[3-Amino-2-(5-fluoro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]phenyl}urea bis(trifluoroacetate);

15 15 *N*-{2-[2-Chloro-3-(5-chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]-4-hydroxyphenyl}acetamide trifluoroacetate (salt);

N-{2-[2-(5-Chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]-4-methoxyphenyl}acetamide trifluoroacetate;

20 5-{{(2*S*)-2-Amino-3-(5-fluoro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl]oxy}-2*H*-1,4-benzoxazin-3(4*H*)-one;

8-{{(2*S*)-2-Amino-3-(5-fluoro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propyl]oxy}quinolin-2(1*H*)-one;

5-Chloro-2-[2-chloro-3-(5-chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]-4-hydroxybenzoic acid;

25 25 2-[2-Amino-3-(5-chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propoxy]-5-chloro-4-hydroxybenzoic acid;

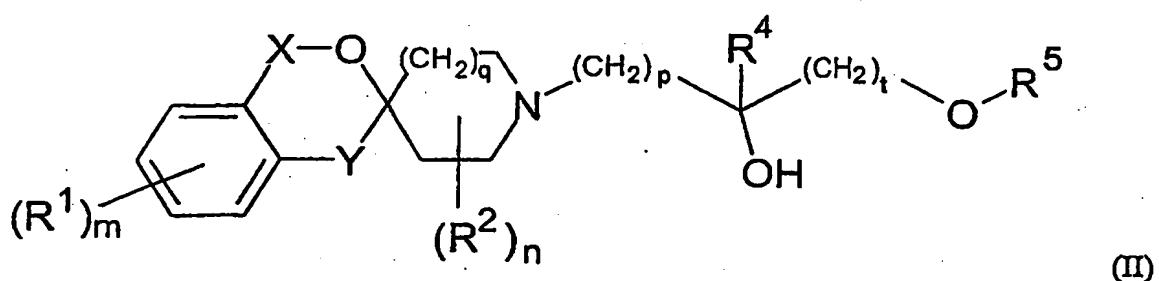
5-chloro-2-[3-(5-chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-(methylamino)propoxy]-4-hydroxybenzoic acid;

5-chloro-2-[3-(5-chloro-1*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-(dimethylamino)propoxy]-4-hydroxybenzoic acid

30 and pharmaceutically acceptable salts and solvates of any one thereof.

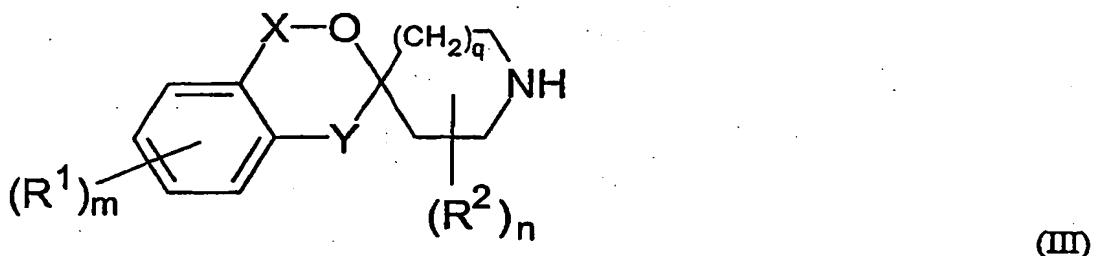
11. A process for the preparation of a compound of formula (I) as defined in claim 1 or a pharmaceutically acceptable salt or solvate thereof which comprises:

(a) converting a compound of formula (II)

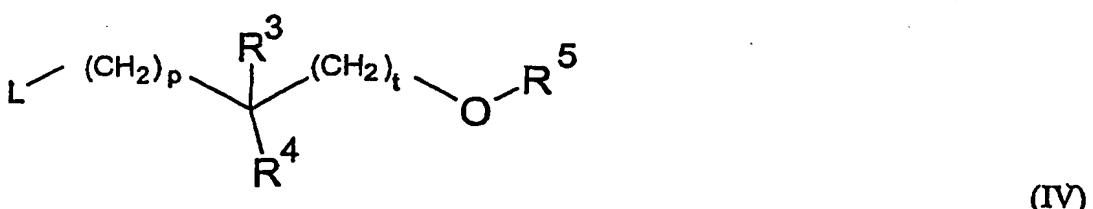


wherein R¹, m, X, Y, R², n, q, p, R⁴, t and R⁵ are as defined in formula (I), into a compound of formula (I); or

10 (b) reacting a compound of formula (III)

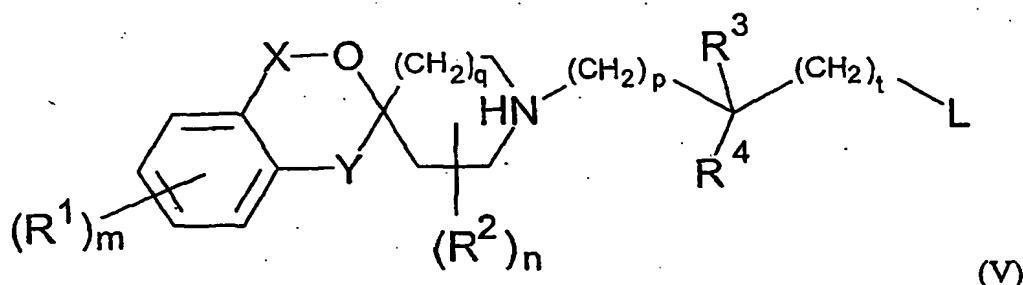


15 wherein R¹, m, X, y, R², n and q are as defined for formula (I), with a compound of formula (IV)

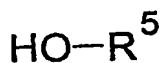


wherein L is a leaving group and p, R³, R⁴, t and R⁵ are as defined for formula (I);

20 (c) reacting a compound of formula (V)



wherein R^1 , m , X , Y , R^2 , n , q , p , R^3 , R^4 and t are as defined for formula (I), with a compound of formula (VI)



(VI)

wherein L is a leaving group and R^5 is as defined for formula (I);

and optionally thereafter if necessary:

- (i) converting a compound of formula (I) into another compound of formula (I);
- (ii) removing any protecting groups; or
- (iii) forming a pharmaceutically acceptable salt or solvate.

12. A pharmaceutical composition comprising a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 in association with a pharmaceutically acceptable adjuvant, diluent or carrier.

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13. A process for the preparation of a pharmaceutical composition as claimed in claim 12 which comprises mixing a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 with a pharmaceutically acceptable adjuvant, diluent or carrier.

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14. A compound of formula (I) or a pharmaceutically-acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 for use in therapy.

15. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 in the manufacture of a medicament for the treatment of human diseases or conditions in which modulation of chemokine receptor activity is beneficial.

16. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 in the manufacture of a medicament for use in treating rheumatoid arthritis.
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17. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 in the manufacture of a medicament for use in treating chronic obstructive pulmonary disease.
- 10 18. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 in the manufacture of a medicament for use in treating asthma.
- 15 19. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10 in the manufacture of a medicament for use in treating multiple sclerosis.
- 20 20. A method of treating an inflammatory disease which comprises administering to a patient in need thereof a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10.
- 25 21. A method of treating an airways disease which comprises administering to a patient in need thereof a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 10.

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